

Making Decisions for Seven Generations

*Native Americans
bring traditional perspectives
to technological solutions*

Sandia Sandra Begay-Campbell, who is a member of the Navajo Nation and whose many relatives spent most of their lives on arid desert tribal lands near Gallup, N.M., seizes every opportunity to acquaint Sandians and representatives of U.S. government agencies with the remote tribal reservations.

"You can try to describe rural conditions, but what you say doesn't mean much until people see the poor economy and minimal infrastructures for themselves. That opens their eyes," she said.

Sandia is working with the Department of Energy and the Navajo Nation to deploy renewable energy technologies to Navajo homes in New Mexico, Arizona, and Utah. The project stems from a memorandum of understanding (MOU) that Sandia signed with the Navajo Nation in November 2000.

The cost of connecting to the electrical power grid is about \$25,000 per mile, a prohibitive price for most residents of the Navajo Nation whose tribes are broadly dispersed. Solar power and windmills usually are better options, and Sandia has developed advanced technologies for all of these renewable-energy sources. The shared vision of Sandia and the Navajo Nation is that the MOU will serve as a catalyst to solve existing problems to improve living conditions.

Begay-Campbell draws from her cultural heritage to explain options to her people and other Native Americans and to serve as a cultural interpreter to Sandia. The goal is not to push a particular technology on the Navajo Nation, but rather to listen to needs and offer choices, she said.

"It can be difficult for a technical person to understand that despite the presence of all the physical conditions that allow a particular

technology to succeed, it still may not be acceptable because the community doesn't want it," Begay-Campbell said.

"Photovoltaics is a good option because it is a clean, quiet source of renewable energy that is in harmony with the Native American philosophy of Seven Generations," Begay-Campbell said. "That philosophy is to care for the earth and the people

on it, care about future generations, and live as sovereign people for seven generations to come."

Part of the MOU's goal is systems integration. Sandia helps to achieve that by drawing on its expertise in telecommunications, satellite and wireless communications, and telemedicine. In a recent community forum on solar energy and photovoltaics co-sponsored by the Navajo Tribal Utility Authority, Sandia technologists discussed the concept of energy conservation and specific applications. They also explained the benefits of compact fluorescent light bulbs for households on a limited energy budget and listened to tribal concerns.

The foundation for the MOU was put in place in 1998 when former Energy Secretary Bill Richardson issued a directive to all national laboratories to create partnerships with Native American tribes and pueblos. In addition to linking the global revolution of science and technology with the oldest cultures in the United States, the MOU gives Sandia technologists the opportunity to see theory put into application. The partnership encompasses other areas of potential collaboration and cooperation, including cooperative strategies for promoting regional economic development and quality education, access to the broad range of services offered by Sandia's Corporate Business Development & Partnerships Office, and hiring more Native Americans at Sandia.

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Sandra Begay-Campbell, left, and two Navajo electrical technicians, Virgynthia Charley, center, and Melissa Parrish check the batteries on a Navajo Tribal Utility Authority photovoltaic system in the Kayenta District, Arizona.